

best of which is the intra-glandular shelling out of the diseased nodules as proposed by Socin.—*Centlb. f. Chirg.*, No. 49, 1889.

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## CHEST AND ABDOMEN.

I. Eight Cases of Appendicitis Treated by Early Operation. By Dr. A. WORCESTER (Waltham, Mass.).

CASE I.—A healthy woman in the prime of life. Has been subject to attacks of "colic." On January 6, 1889, the pain began in the morning and increased through the day. Her evening temperature was normal. There was tenderness on pressure, but no evidence of tumor in the right iliac lumbar region. The next day there was more pain, and the evening temperature was 99°. After a fairly good night, her temperature was 100°. Micturition difficult. Severe pain in vagina and in right abdomen, which was slightly distended and very tender. There was no dulness on percussion, and only a slight resistance on pressure. *Per vaginam* the uterus was found slightly pushed to the left and exquisitely painful if moved by the finger. Rectal examination negative.

Operation fifty-four hours after initial symptoms. Incision three inches long in the right linea semilunaris. A few ounces of turbid inodorous serum escaped. The swollen appendix was easily found and drawn outside. Its tip was gangrenous. Owing to the firmness of the adhesions binding down the cæcum, it was very difficult after amputating the appendix to approximate the peritoneal surfaces of its stump. Silk sutures were employed. The abdomen was flushed with hot boiled water, and the wound closed with silk-worm gut sutures. She rallied fairly well, but for five days could keep nothing in the stomach. Peptonized enemata kept her alive. The temperature for the first week was normal. The troublesome distension of the abdomen was relieved by turpentine enemata and use of rectal tube. During the second week the stitches were removed and there was a slight discharge of thin odorless pus. On the twelfth day there was discharged from the sinus a silk ligature which had been left in by oversight; and

a week afterward the silk sutures which had been used on the stump were also discharged. Recovery perfect.

CASE II.—Male, æt. 40 years; when first seen had had pain in right abdomen for nine days and had been confined to his bed for three days. He had vomited frequently. His abdomen was moderately distended, tympanitic except in right iliac lumbar region where there was a well-marked tumor. Pulse, 90, temperature, 100.6°. He was at once removed to the hospital for operation.

Incision three inches long in the right linea semilunaris. The omentum was adherent to the peritoneum. On breaking through it there escaped a pint or more of clear fluid. The appendix was found after long search, delayed by the swollen adhesions in its neighborhood. It was swollen, grayish and perforated. After amputation, the peritoneal surfaces of the stump were approximated by catgut sutures. Abdomen flushed with hot boiled water. Wound entirely closed with silkworm gut sutures.

He rallied well from the effects of the operation, but began hiccupping the next day. This continued for several days and was relieved only by amyl nitrate inhalations. On the fourth day, the wound looking badly, one stitch was removed. Foul pus escaped. Two days after, all the stitches were removed. The edges of the wound were then sloughing. During the second week the wound became healthy and the edges were drawn together with adhesive plaster. At the end of the third week he was discharged well, except for granulating sinus. Contrary to advice he began working too soon, tramping over rough country several miles sometimes. Two months after his discharge he was readmitted to the hospital with a supposed abscess of the liver. He was expectorating, vomiting and also voiding per rectum pus very freely. His condition seemed desperate.

He gradually rallied. The expectoration of pus ceased. In a month he was again at work, and has since, so far as is known, continued well.

CASE III.—A strong, healthy male, æt. 30 years. From boyhood had been subject to occasional attacks of severe "colic." On June 1, 1889, worked hard all day, lifting more than usual. He was taken

sick that night; pains in belly not relieved by vomiting. When seen the next day, he complained of severe pain in the umbilical region. There was no tenderness on pressure nor dulness on percussion in any part of the abdomen. Pulse 74, temperature normal. The next morning the pulse was 80, temperature 99.8°. There was retention of urine. The pain was more severe and was now referred to the right abdomen. There was slight dulness and considerable tenderness in the right lumbar region. That evening his pulse was 90, temperature, 102°. The pain was now definitely located in the region just described, and above the crest of the ilium there was marked dulness and great tenderness. Rectal examination negative.

On June 4, sixty-sixth ours after initial symptoms, the patient having been removed to the hospital, underwent operation. Incision through abdominal walls two and one half inches, in the right linea semilunaris. Exactly where the pain and tenderness had been most marked was found the rigid appendix lying along the outer side of the colon, pointing upward and outward. Delicate adhesions connected its mesentery with the colon and a neighboring coil of the small intestine. The appendix was easily brought outside. It was four inches long, gangrenous in its distal half. Its mesentery extended nearly to its tip. This was ligatured with catgut, and the appendix, having been cut loose from it, was amputated by a V-shaped incision. The flaps of the stump were then rolled in and their peritoneal surfaces approximated by fine silk sutures. Abdominal cavity washed out with hot boiled water. Wound closed with silkworm gut sutures. No collapse followed.

The next day his temperature was normal. The second day his bowels were moved by salts and enemata. He was free from pain and fever for five days. His wound had then entirely closed. But an abscess developed where the appendix had lain, which was evacuated on the ninth day by reopening the wound. Discharged from the hospital on the twenty-fourth day. Recovery complete.

CASE IV.—A healthy boy, æt. 13 years, was feverish the night of June 12, 1889. The next morning he vomited and complained of pain in abdomen, especially on the right. There was frequent vomit-

ing and increasing pain for the following forty-eight hours. When first seen, fifty-six hours after initial symptoms, the abdomen was distended and exquisitely tender. Examination under anaesthesia developed distinct dulness on percussion and decided resistance on pressure in the right iliac lumbar region. He was at once removed to the hospital for operation.

Incision three inches in the right linea semilunaris. Pus escaped on opening the abdomen. A sloughing friable mass presented, which was found to be of omentum wrapped around the appendix. The peritoneal investment of the cæcum and several inches of the colon on its outer surface was sloughing, but the muscular wall of the bowel seemed healthy. The proximal third of the appendix was intensely red and swollen. The distal two-thirds was gangrenous, and at the beginning of this portion were several concretions the size of a pea, retained in the appendix only by its greatly thinned and perforated walls. The appendix was amputated beyond a catgut ligature applied near its base. The sloughing omentum was also amputated, after ligaturing it in several sections. The abdomen was thoroughly flushed out with hot boiled water. A drainage tube was employed.

Patient rallied well. The next day was very comfortable. There was, however, an offensive discharge from the tube, and on the second day the wound had to be reopened; its surface was black and sloughing. On the fourth day intestines protruded. For three weeks his temperature ranged from 99° to 103°. His abdomen was greatly distended. He suffered great pain. The discharge from the wound was copious and offensive. When this faecal discharge ceased, the boy nearly died of intestinal obstruction, which was finally relieved by dilating the sinus and opening an inflated coil of the intestine. A large evacuation of gas and liquid faeces occurred. The patient's condition greatly improved and natural evacuations of the bowels were established. But the constant acrid faecal discharge from the wound irritated it and the surrounding skin most torturingly.

The convalescence was very tedious. An attempt to close the fistula failed. But now at the end of five months, although there is still some faecal discharge from the sinus, the boy is able to walk out of doors and is in very good general health.

CASE V.—A large healthy lad, æt. 16 years, has had during last few years occasional attacks of "belly-ache." On June 13, 1889, was struck by a baseball in region of umbilicus. He thought little of the blow till the next day, when there developed loss of appetite and nausea. That night and the next day he vomited bile frequently, and when first seen by the writer on the afternoon of the 15th, he complained of the same pain that he had suffered when struck by the ball. He was wandering about out of doors. His pulse was 110, temperature 102°. Abdomen soft and not tender on pressure. June 16, temperature 101°, vomiting less. June 17, temperature 100°, slight tenderness in right abdomen. June 18, temperature 99°, increased tenderness and some pain. During the three days following, his temperature rose steadily to 102°. The pain did not increase, but the tenderness and resistance on pressure and dulness on percussion became more marked. Rectal examination negative. The diagnosis of appendicitis was not assented to by consultants till June 20, and the operation then advised was not allowed by his parents till June 21, when he was removed to the hospital.

Incision two and one-half inches in right linea semilunaris. In the iliac fossa was found a dense mass, from which escaped several ounces of foul pus, on pushing into it with the finger. In the abscess cavity (which was poorly defined, and extended upward alongside the colon into the loin) lay the gangrenous perforated appendix on the inner side of the cæcum and pointing downward.

In attempting to lift it into view, three inches of it tore off. It was not possible to move the cæcum so as to get at the appendix stump. After amputating some of the gangrenous friable omentum, which had served as part of the abscess wall, and thoroughly washing out the abdomen, a drainage tube was left in the abscess cavity where the appendix had lain, and a second tube carried up into the loin. The abdominal wound was sutured with silkworm gut.

During the operation the patient suffered considerable collapse. The next day his temperature was 100°, and pulse 140. There was very little discharge from the drainage tubes. The second day his temperature was 102°, pulse 160; delirious. The third day he died. There

was no autopsy. But on removing the drainage tubes there escaped thick, dark, foul pus.

CASE VI.—A healthy boy, æt. 15 years, was taken suddenly sick August 4, 1889, with severe pain in the abdomen. Six years before was confined to his bed for a month with pain in belly and inability to move his right leg. When first seen by the writer, on fifth day of present attack, his temperature was  $103^{\circ}$ , pulse 114. The belly was distended, but not so as to obscure a tumor in the right, which was dull on percussion and very tender. Rectal examination negative. He was removed to the hospital, and operated upon at 9 P.M., August 8. The incision, two inches long, parallel to the crest of the ilium and one inch removed, most happily avoided a loop of intestine which was found firmly adherent to the abdominal wall only a half inch toward the median line. The cæcum and the ascending colon, packed with feces, was bound down in the iliac fossa, and pulsated with the iliac artery. To the outside of it, and above the crest of the ilium was found an abscess from which was evacuated about two ounces of very foul pus. No trace of the appendix was discovered. After thorough irrigation with hot boiled water, a drainage tube was carried into the abscess cavity and the wound otherwise closed with silkworm gut sutures. For some days after there was a slight discharge of serous pus, never foul, from the tube, which was removed on the sixth day. On the second day there was considerable pain, which was entirely relieved on moving the bowels by salts and copious enemata. The highest temperature after the operation was  $100.2^{\circ}$  on the first day, and never above  $99^{\circ}$ , thereafter. Discharged from the hospital on the twelfth day. The sinus, where the drainage tube lay, closed a fortnight afterward, and at the end of a month the boy was as well as ever.

CASE VII.—A very strong laborer, æt. 30 years, was in the hospital for a week in December, 1888. He had then every symptom of appendicitis, but was not operated upon because from his entrance he steadily improved under medical treatment. He had had two similar though less severe attacks before. For ten months after he was perfectly well.

Soon after midnight, October 11, he was seized with intense pain in the right iliac lumbar region. His pulse at 4 A.M. was 88, temperature 98.8°. At 4 P.M. his pulse was 110, temperature 102°. He was then removed to the hospital. The next morning his fever had not abated. There was great tenderness and pain, but little dulness and no tumor, in region above described. Examination per rectum negative.

Operation thirty-six hours after initial symptoms, by Dr. H.A. Wood. Incision two and one-half inches along outer border of right rectus. Purulent fluid escaped on opening the peritoneum. Intestines coated with lymph flakes. The appendix was found fastened down to a mass of inflamed omentum along the outer side of the cæcum and colon. It was probably perforated, for a small soft faecal concretion was found near it. On account of the firm adhesions and the proximity of apparently healthy omentum the appendix was removed. A rubber drainage tube was placed next it and a second tube left in to drain the pelvis where was found considerable free pus. After flushing out with hot water, the wound was closed with silkworm gut sutures.

Very little shock. No vomiting. The second day after the operation he took liquid nourishment freely. The third day his bowels were moved by salts and enemata. There was very little pain and all went well for six days, when he again became feverish and suffered more pain in the region of the wound. The discharge, which was at first inodorous, became foul. A sub-peritoneal abscess which formed alongside the wound was thought to have been occasioned by infection from the drainage tubes after shortening them, thus bringing the holes of the tubes against the sides of the wound. The tubes and sutures were removed on the eleventh day, and thereafter the convalescence was uninterrupted. Discharged on the twenty-fifth day with only small sinuses where the tubes lay. A fortnight later was walking about town as usual.

CASE VIII.—Previously healthy man, æt. 22 years, was seized with pain in the right iliac lumbar region at noontime, October 29, 1889. He vomited frequently. The next morning there was pain, tenderness and dulness in the region above described. Pulse 80, temperature 96.6°. The next day his condition was unchanged, but there was

more pain that night. The third day his pulse was 100, temperature 103.6°. He was then removed to the hospital for operation.

Incision two and one-half inches along outer border of right rectus. A small amount of pus escaped on opening the peritoneum. The appendix was easily liberated from adhesions binding it to the cæcum. The omentum attached to it was amputated after ligaturing it in sections with catgut. One and one-half inches of the distal portion of the appendix was gangrenous. It was amputated and the stump ligatured with catgut. After flushing out the abdomen with hot boiled water and laying a drainage tube from where the appendix had lain the wound was closed with silkworm gut sutures. No shock followed the operation. His pulse the next day was 88, and temperature 99.2°. There was slight discharge of pus from the tube.

The second day he had more fever and vomited frequently. The edges of the wound becoming œdematous several sutures were removed. The discharge of pus was then more free, and his general condition much improved. On the eighth day the remaining sutures and the tubes were removed.

Except for the necessity of being catheterized for a week or so, and for a small hard swelling in the abdominal wall below the wound which disappeared spontaneously, his convalescence was uninterrupted. He was discharged entirely well on the twenty-fifth day after the operation. —*Boston Med. and Surg. Jour.*, January 30, 1890.

**II. Twenty-Six Cases of Appendicitis.** By Dr. JOHN H. MANS (Boston). Sixteen of these twenty-six cases occurred in adults and ten in youths. Twenty were in males and six in females. Fifteen recovered and eleven died. Twelve were operated upon and fourteen were not, but in all the eleven fatal cases an early thorough operation would have been proper. Of the twelve operated upon six recovered and six died. Of the fourteen not operated upon nine recovered and five died. The average age of the adults was about thirty-two and that of the youths about twelve. The operation was done on the second day in one case, on the fourth day in one case, on the sixth day in one case, on the seventh day in one case, on the eighth day in four